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PACKAGINGS AND IBCs

Rationalized approach for assigning substances or groups of substances to packing instructions or special packing provisions

Transmitted by the Expert from Germany

INTRODUCTION

In analyzing the content of document ST/SG/AC.10/C.3/1997/52 (United States of America and United Kingdom) - **Use of packagings and IBCs, Packing Instructions and Special Provisions** - the Expert from Germany feels that it would be necessary to establish a rationalized approach, similar to the transport of substances in portable tanks, recently adopted by the Committee of Experts, to assign substances or groups of substances to special kinds of packagings.

PROPOSAL

General parameters for liquid and solid substances and groups of substances for which special packing instructions are needed:

1. Principles for liquids

Generally packing instruction P001 should be applicable to:

Liquids of packing group I of Classes or Divisions 3, 5.1, 6.1 and 8
Liquids of packing group II of Classes or Divisions 3, 4.2, 4.3, 5.1, 6.1, 8 and 9
Liquids of packing group III of Classes or Divisions 3, 4.2, 4.3, 5.1, 6.1, 8 and 9

with certain exceptions e.g.

Stabilized or inhibited substances (Hydrogen peroxide, stabilized, Hydrogen cyanide, stabilized)
Substances for which venting devices are needed including packagings with a closure by means of two devices (metal catalyst, wetted)
Substances for which in RID/ADR no letters can be assigned
Substances which bear more than one subsidiary risk, packing group I (including n.o.s.-entries)
Some articles containing liquids (e.g. Aircraft hydraulic power unit fuel tank, Aluminium borohydride contained in devices, Batteries and Cells, containing liquid Sodium)
Substances which give off small quantities of carbon dioxyde and/or nitrogen
Molten substances (substances mentioned by name in the UN-Recommendations or being transported in a molten state)
Desensitized explosives, Isocyanates, Nitromethane, Nitroglycerin solutions of Class 3
Self-reactive and related substances and Desensitized explosives of Division 4.1
Pyrophoric liquid substances of Division 4.2
Chlorosilanes, Organic metallic compounds and their solutions of Division 4.3
Certain liquid substances of packing group I of Division 5.1
Carbonyles, Isocyanates of Division 6.1
Hydrogen fluoride, Fluorides, Bromine solution, Gallium, Mercury, Hypochloride solutions of Class 8
Genetically modified micro-organisms carried in liquid deeply refrigerated nitrogen, Substances carried at elevated temperature in a liquid state

2. Principles for solids

Generally packing instruction P002 should be applicable to:

Solids of packing group I of Classes or Divisions 5.1, 6.1 and 8
Solids of packing group II of Classes or Divisions 4.1, 4.2, 4.3, 5.1, 6.1, 8 and 9
Solids of packing group III of Classes or Divisions 4.1, 4.2, 4.3, 5.1, 6.1, 8 and 9

with certain exceptions e.g.

substances for which in RID/ADR no letters can be assigned
Some articles containing solids (Batteries and Cells, containing solid Sodium, Batteries, dry, containing Potassium hydroxide, Lithium batteries, Lithium batteries contained in equipment
Self-reactive and related substances and Desensitized explosives of Division 4.1
Pyrophoric solid substances of Division 4.2
Genetically modified micro-organisms, Substances carried at elevated temperature in a solid state

A list of liquid and solid goods needing more stringent packing instructions or special provisions is attached as an Annex to this document.

In the opinion of the Expert from Germany the order of coding of instructions for IBCs and Large Packagings (which should be considered in the future) should be the same as those of the Packing instructions e.g. the IBC instruction IBC01 and IBC02 or the instruction for Large Packagings LP01 and LP02 should be assigned to substances or groups of substances for which P001 and P002 is normally used; however the criteria for substances and materials which are unsuitable for transport in IBCs should be taken into account.

ANNEX

LIST OF EXCEPTIONS OF GOODS NEEDING MORE STRINGENT PACKING INSTRUCTIONS OR ADDITIONAL SPECIAL PROVISIONS (CLASS OR DIVISIONS)

Class 3

1. UN 1261 Nitromethane not allowed in removable head packagings (special packing provision)
2. UN 1921 Propyleneimine, inhibited (special packing instruction)
3. UN 2481 Ethylisocyanate (special packing instruction)
4. UN 3064 Nitroclycerin solution in alcohol (special packing instruction)
5. UN 3165 Aircraft hydraulic power unit fuel tank (special packing instruction)
6. Obligation of vent for receptacles containing preparations, which give off small quantities of carbon dioxide and/or nitrogen (special packing provison)

Division 4.1

1. UN 1331 Matches "strike anywhere" (special packing instruction)
2. UN 2248 sulphur, molten, UN 2304 Naphthalene, molten and UN 3176 flammable solid, organic, molten, n.o.s., not allowed in packagings (special packing provision)
3. Desensitized explosives (excluding nitrated cellulose mixtures of UN 2555, UN 2556 und UN 2557) (special packing instruction)
4. Nitrated cellulose mixtures of UN 2555, UN 2556 and UN 2557 (special packing instruction)
5. Substances related to self-reactive substances (UN 2956, UN 3242, UN 3241 and UN 3251) (special packing instruction)
6. Self-reactive substances (special packing instruction)
7. Obligation of a vent for receptacles containing self-reactive liquids (UN 3221, UN 3223, UN 3225, UN 3227, UN 3229, UN 3231, UN 3233, UN 3235, UN 3237 and UN 3239) which give off small quantities of gases (special packing provision)

Division 4.2

1. Pyrophoric liquids or solids (special packing instruction)
2. Obligation of a vent for steel drums containing UN 1378 metal catalyst, wetted (special packing provision)
3. UN 1381 Phosphorus (special packing instruction)
4. UN 2002 Celluloid, scrap and UN 2006 Plastics, nitrocellulose-based, self-heating, additionally requirement for metal packagings (special packing provision)
5. UN 2447 Phosphorus, white, molten, not allowed in packagings (special packing provision)
6. 2870 Aluminium borohydride contained in devices (special packing instruction)

7. Closure by means of two devices for receptacles for liquids having a viscosity, at 23 °C, of less than 200 mm2/s > special packing provision

Division 4.3

1. Chlorosilanes (UN 1183, UN 1242, UN 1295 and UN 2988) (special packing instruction)
2. Organic metallic compounds and their solutions of UN 1928 and UN 3207 and (water-reactive) liquids (UN 3129, UN 3130, UN 3148) (special packing instruction)
3. Closure by means of two devices for receptacles for liquids of UN 3130 (special packing provision)
4. UN 3292 Batteries, containing sodium and cellls containing sodium (special packing instruction)

Division 5.1

1. Halogenated compounds of fluorine of UN 1745 , UN 1746, UN 2495 (special packing instruction)
2. Obligation of a vent for receptacles containing hydrogen peroxide solution or mixture of UN 2014, UN 2984 or UN 3149 (special packing provision)
3. UN 2015 Hydrogen peroxide, stabilized or -aqueous solution (special packing instruction)
4. UN 2426 Ammonium nitrate, liquid not allowed in packagings (special packing provision)

Division 6.1

1. UN 1051 und UN 1615 Hydrogen cyanide, stabilized (special packing instruction)
2. UN 1185 Ethyleneimine, inhibited (special packing instruction)
3. UN 1259 nickel tetracarbonyl and UN 1994 Iron pentacarbonyl (special packing instruction)
4. UN 1613 and UN 3294 Hydrogen cyanide, solutions (special packing instruction)
5. UN 2480 Methyl isocyanate (special packing instruction)
6. UN 3315 chemical sample, toxic, in packagings (special packing instruction)

Class 8

1. UN 1052 Hydrogen fluoride, anhydrous and UN 1790 > 85 % hydrogen fluoride (special packing instruction)
2. Receptacles of inner glass, not allowed for fluorides of UN 1727, UN 1732, UN 1740,UN 1742, UN 1743, UN 1756, UN 1757, UN 1768, UN 1775, UN1776, UN 1778, UN 1782, UN 1790, UN 1811, UN 2439, UN 2817, UN 2851 (special packing provision)
3. UN 1744 Bromine and UN 1744 bromine solution (special packing instruction)
4. Articles of UN 1774 and UN 2028 (special packing instruction)

5. Permisible periode of use of packagings for UN 1786, UN 1790, UN 2031 and UN 2032 (special packing provision)
6. Obligation of a vent for receptacles containing UN 1791 hypochlorit solution (special packing provision)
7. UN 2576 Phosphorus oxybromide, molten, not allowed in packagings (special packing provision)
8. Articles of UN 2794, UN 2795, UN 2800 and UN 3028 (special packing instruction)
9. UN 2803 Galium and UN 2809 mercury (special packing instruction)

Class 9

1. Articles of UN 2990 and UN 3072 (special packing instruction)
2. Articles of UN 3090 and UN 3091 (special packing instruction)
3. UN 3257 Elevated temperature liquids, n.o.s., not allowed in packagings (special packing provision)
4. UN 3258 Elevated temperature solid, n.o.s. (special packing provision)
5. Articles of UN 3268 (special packing instruction)
6. For carriage of genetically modified micro-organisms in deeply refrigerated liquid nitrogen (special packing prosivion)
7. Live animals (special packing provision)